IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: MacKay et al.	Attorney Docket No.: CISCP261
Application No.: 09/691,419	Examiner: Haliyur, Venkatesh N.
Filed: October 17, 2000	Group: 2616
Title: METHOD AND APPARATUS TO DETECT AND BREAK LOOP CONFIGURATION	Confirmation No. 4308

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

Applicant requests review of the final rejection dated July 3, 2007 regarding the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reasons stated below.

Claims 22-27, 33-38 and 42-44 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Meier et al. (U.S. Patent No. 5,295,154, hereinafter "Meier") in view of McGuire et al. (U.S. Patent No. 6,151,326, hereinafter "McGuire"). Claims 29-30 and 40-41 were rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Meier. Claims 28 and 39 were objected to as being dependent upon a rejected base claim.

Applicant submits that the rejections of independent claims 22, 33 and 44 as well as their associated dependent claims are in clear error because the prior art does not teach or suggest determining at a first node whether an identification included in a communication sent from a second node to the first node is closer to, equidistant from, or further from a predetermined identification value than an identification associated with the first node. Applicant further submits that the rejections of independent claims 29 and 40 and their associated dependent claims are in clear error because the prior art does not teach or suggest a method or apparatus for

sending a loop detect message from a first device to a second device that includes the same number of fields as an auto-negotiate message.

Claim 22 of the present application describes a method for handling a communication in a network of nodes in which each node has an associated identification that is unique from the other identifications in the network of nodes. At a first node, the method includes receiving a communication from a second node. An identification is included in the communication. At the first node, the method further includes determining whether the identification included in the communication is closer to, equidistant from, or further from a predetermined identification value than the identification that is associated with the first node. In other words, the first node compares both its own identification and the identification included in the communication to the predetermined identification value. There are only three possible results from these comparisons; that is, the identification associated with the first node is either closer to, equidistant from, or further from the predetermined identification value than the identification included in the communication received from the second node.

If the identification included in the communication is closer to the predetermined identification value than the identification associated with the first node, the method includes sending, from the first node to a third node, a communication that includes the identification that was included in the communication received from the second node. If, instead, the identification included in the communication is further from the predetermined identification value than the identification associated with the first node, the method includes sending, from the first node to the third node, a communication that includes the identification associated with the first node. If the identification included in the communication is equidistant from the predetermined identification value as the identification associated with the first node, then it is concluded that a loop exists in the network. More particularly, since all of the identifications associated with the nodes are unique, if any node that had previously sent its own associated identification to other nodes subsequently receives its own associated identification back in a communication from another node, it can be concluded that a loop exists in the network.

Page 4 of the present Final Office Action essentially repeats the same reasons for the rejections of claims 22-27, 33-38 and 42-44 that were stated in the Office Action dated January 16, 2007. More specifically, page 4 asserts that Meier discloses:

> receiving, at a first node (gateway or root node, item 20 of Fig 1), a communication (HELLO/LISTEN/DETACH) from a second node (bridge, item 44 of Fig 1, col 2, lines 45-58), wherein the communication includes an **identification (node ID, col 9, lines 1-10)**; determining at the first node, whether the **identification included (distance information)** in the communication is

> closer to, equidistant from, or further from a predetermined value than an identification associated with the first node (col 10, lines 1-68); if the identification included in the communication is closer to the **predetermined value (CHANGE-THRESHOLD level)** than the identification associated with the first node...

Firstly, as stated in the response dated April 16, 2007, the perceived reading of "identification" evidenced in the present Final Office Action is erroneous. The Examiner is apparently and erroneously using both "node ID" and "distance information" from Meier to teach the identification recited in claim 22. Secondly, if the CHANGE_THRESHOLD level described in Meier is read as representing the predetermined identification value recited in claim 22, then Meier fails to teach or reasonably suggest "determining, at the first node, whether the identification included in the communication is closer to, equidistant from, or further from a predetermined identification value than an identification associated with the first node."

In the Response to Arguments section on page 6 of the present Final Office Action, the Examiner states,

> Meier et al suggested each node in the network is assigned a unique network service address and node type identifier to distinguish between different nodes and different node types to determine distances from root node (col 3, lines 41-47) and determining distances of nodes closest to root node within the range of certain nodes (nodes one hop away from root node, col 4, lines 1-50).

Thus, it appears that the Examiner takes the position that the unique network service addresses and node type identifiers of Meier are used to determine distances between the nodes and a root node. These determined distances between the nodes and the root node are then compared to form an optimal spanning tree; that is, the nodes are linked to minimize the distance to the root node. However, the method of claim 22 of the present application clearly requires that the identifications, themselves, are compared to the predetermined identification value. As such, Meier fails to teach or reasonably suggest "determining, at the first node, whether the identification included in the communication is closer to, equidistant from, or further from a predetermined identification value than an identification associated with the first node." More particularly, if it is assumed that node ID is being equated with an identification, then it is submitted that nowhere does Meier teach nor suggest making comparisons of node IDs, let alone making a comparison at one node between that node's ID, a node ID sent to that node, and a predetermined node ID value. Without a comparison of node IDs, this element cannot possibly be equated with the identification recited in claim 22. If, on the other hand, the Examiner is equating "distance information" with identification, then it is respectfully submitted that distance

information is not a unique identification as two different nodes may be equidistant from a host node. In view of the foregoing, a node cannot be uniquely represented with distance information, and thus, this interpretation (i.e. equating distance information with identification) is clearly improper.

Furthermore, Applicant submits that the Examiner's reading of Meier's CHANGE_THRESHOLD level as the predetermined identification value recited in amended claim 22 is clearly improper. The CHANGE_THRESHOLD level is described in column 4 lines 35-47 of Meier, portions of which recite, "Attached bridges may also respond to HELLO messages. If a HELLO message indicates that a much closer route to the root node is available, the attached bridge sends a DETACH packet to its old parent and an ATTACH.request packet to the closer node. To avoid instability in the system and to avoid overloading any given node, an attached bridge would only respond to a HELLO message if the hop count in a HELLO packet is greater than a certain threshold value, CHANGE_THRESHOLD." Thus, the CHANGE_THRESHOLD level refers to a distance, or more specifically, a minimum hop count (i.e. the number of legs traversed by a packet between the child node and the root node). As such, the equation of CHANGE_THRESHOLD level and predetermined identification value is clearly improper. More particularly, if node ID is read as the identification recited in claim 22, then it is respectfully submitted that a node ID, as defined in Meier, cannot possibly be logically compared to a hop count. Second, even if distance information is read as the identification, it is respectfully submitted that, as described above, distance information is not unique, and hence this reading of Meier is also improper. Furthermore, whereas claim 22 requires determining which identification is closer to the predetermined identification value, it is respectfully submitted that Meier is not attempting to determine which node is closer to the CHANGE_THRESHOLD level.

Thus, while the present Office Action is unclear as to which of these interpretations of identification (node ID or distance information) the Examiner is using to reject claim 22, it is submitted that no matter the interpretation, Meier fails to teach or reasonably suggest the combination of limitations recited in claim 22. Furthermore, the method described by McGuire is unable to cure the deficiencies of Meier. In view of the foregoing, it is respectfully submitted that claim 22 is patentably distinct from the cited references and that the rejection of claim 22 be withdrawn. Independent claims 33 and 44 recite limitations similar in scope to those recited in claim 22, albeit as apparatuses, and thus, are respectfully submitted to be patentably distinct from the art of record for at least similar reasons to those discussed above with respect to claim 22. Additionally, dependent claims 23-28 and 34-39 are also patentably distinct from the cited

references for at least the same reasons as those recited above for the independent claims, upon which they ultimately depend.

Regarding the rejection of claim 29, page 2 of the Final Office Action apparently asserts that sending spanning tree messages to form nodes can be read as sending a loop detect message, as required in claim 29. Secondly, page 2 additionally takes the position that the HELLO/ATTACHED/LISTEN/ UNATTACHED messages of Meier can be read as auto-negotiate messages.

As to the first point, nowhere does Meier disclose nor even suggest detecting loops let alone sending a loop detect message. As for the second point, autonegotiation has a well defined meaning that is understood by those of skill in the art and, thus, the Examiner's assertion that the HELLO/ATTACHED/ LISTEN/UNATTACHED messages of Meier can be read as auto-negotiate messages is in clear error. Autonegotiation is an Ethernet procedure by which two connected devices choose common transmission parameters. In this process, the connected devices first share their capabilities (via auto-negotiate messages) as for these parameters and then choose the fastest transmission mode they both support." The specifics of the autonegotiation protocol were originally defined in the IEEE standard 802.3u in 1995 (note that Meier is a continuation of App. Ser. No. 769,425 filed Oct. 1, 1991) and are currently defined in the IEEE standard 802.3ab. Thus, autonegotiation has a specific well defined and understood meaning, and cannot be interpreted to simply represent HELLO, ATTACHED, LISTEN and UNATTACHED messages as asserted by the Examiner. As such, Meier does not teach sending a loop detect message that includes the same number of fields as an auto-negotiate message and therefore, independent claims 29 and 40 and their associated dependent claims are not anticipated by Meier.

Withdrawal of all of the rejections under 35 U.S.C. §102(b) and §103(a) is therefore respectfully requested.

Respectfully submitted,
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